NAVAL AIR TRAINING COMMAND

NAS CORPUS CHRISTI, TEXAS
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15 AUG 13

CHIEF OF NAVAL AIR TRAINING

INTERMEDIATE UNDERGRADUATE MILITARY FLIGHT OFFICER (UMFO)

2013

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
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CNATRA INSTRUCTION 1542.163

Subj: INTERMEDIATE UNDERGRADUATE MILITARY FLIGHT OFFICER (UMFO)

1. Purpose. To publish the curriculum for training Undergraduate Military Flight Officers (UMFOs) in the Intermediate phase of Naval Air Training Command (NATRACOM) flight training.

2. Cancellation. CNATRAINST 1542.157B will be cancelled when the last student enrolled completes the curriculum.

3. Action. This curriculum is effective on receipt. No changes will be made without written authorization by the Chief of Naval Air Training (CNATRA).

4. Forms. The CNATRA forms required by this instruction are automated in the Training Integration Management System (TIMS) computer program. Additional CNATRA forms are available on the CNATRA website https://www.cnatra.navy.mil/pubs/forms.htm.

C. HOLLINGSWORTH
Chief of Staff

Distribution:
CNATRA Website

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COURSE DATA

1. Course Title. Intermediate Undergraduate Military Flight Officer (UMFO) Training System Curriculum.

2. Course Identification Number. Q-2D-0585.

3. Location(s). Naval Air Station (NAS) Pensacola.

4. Course Status. Active.

5. Course Mission. Intermediate UMFO is designed to qualify graduates of this course for follow-on advanced flight training and prepare them for their future responsibilities as military officers.

6. Prerequisite Training. Successful completion of Primary 1 UMFO (Q-2D-0385) and Primary 2 UMFO (Q-2D-0485) Training.

7. Security Clearance Requirements. None.

8. Follow-on Training. UMFO Advanced Strike Fighter training.

9. Course Length. Overall time-to-train calculated in accordance with CNATRAINST 1550.6E. Training Days account for factors including weather, personnel and equipment availability, briefing and preparation time, and historical delays. Calendar Weeks further account for weekends, holidays, safety standdowns, and other expected nonworking days.

	Training Days	Calendar Weeks
Intermediate:	16.6	3.7

10. Class Capacity. Variable.

11. Instructor Requirements. As established by Chief of Naval Operations (CNO) planning factors.

12. Course Curriculum Model Manager. Commander, Training Air Wing SIX (COMTRAWING SIX).

13. Quota Management Authority. Chief of Naval Air Training.

14. Quota Control. CNO.

15. Course Training Subjects

a. Intermediate Ground Training

INTERMEDIATE ADMINISTRATION		
Stage	**Symbol**	**Hours**
Intermediate Check-In and Checkout	G0101-2	2.25
Totals		2.25

b. Intermediate Flight Support

INTERMEDIATE FLIGHT SUPPORT		
Stage	**Symbol**	**Hours**
Section Instrument Navigation Flight Support	F0101-3	9.5
Section Visual Navigation Flight Support	F0201-2	13.5
Totals		23.0*

Note: Intermediate Flight Support totals include 3.0* hours accomplished as a self-study in the UTD. These hours are also included on the Intermediate Flight Training table.

c. Intermediate Flight Training. The programmed times for each phase, stage, and media are:

INTERMEDIATE FLIGHT TRAINING				
Flight/Events	**UTD* Flts**	**Hrs**	**T-6A Flts**	**Hrs**
Instrument Navigation			2	3.0
Section Instrument Navigation (SS*)	1	1.5*	4	6.0
Section Tactical Formation			1	1.5
Section Visual Navigation (SS*)	1	1.5*	3	4.5
Section Visual Navigation Check Ride			1	1.5
Totals	**2**	**3.0***	**11**	**16.5**

Note: Totals include 3.0* hours self-study in the UTD without an instructor. Self-study UTD will be formally scheduled.

16. Training Preparation Time. In addition to the hours formally planned for classes, simulators, and flights, significant additional time to prepare and study should be expected outside of scheduled training hours. This range will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator and flight events, specific brief and taxi times will be programmed into TIMS and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME PER CURRICULUM HOUR/EVENT			
Training Area	**Brief/ Preflight/ Taxi**	**Taxi/ Debrief**	**Total**
Flights: I4301-2 and F4101-4	2.0	1.5	3.5
Flights: F4201, F4301-3, and F4490	2.5	1.5	4.0

17. Physical Requirements. As specified in the Manual of the Medical Department, Chapter 15, and all applicable anthropometric standards.

18. Obligated Service. Refer to MILPERSMAN for Naval personnel.

19. Primary Instruction Methods. Lecture, mediated interactive lecture (MIL), Unit Training Device (UTD), self- and group-paced study, and in-flight instruction.

20. Preceding Curriculum Data. Replaces CNATRAINST 1542.157B.

21. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate student performance for all items on all events. Final judgment regarding the satisfactory performance of any item rests with the instructor. Refer to CNATRAINST 1500.4G, Chapter VII, for further guidance.

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ABBREVIATIONS

The following is a list of abbreviations used in the curriculum:

AGL	-	Above Ground Level
AIM	-	Aeronautical Information Manual
AOB	-	Angle of Bank
ASR	-	Airport Surveillance Radar
ATC	-	Air Traffic Control
ATF	-	Aviation Training Form
ATIS	-	Automated Terminal Information Service
ATJ	-	Aviation Training Jacket
ATS	-	Aviation Training Summary
AWOS	-	Automated Weather Observation System
BAC	-	Basic Approach Configuration
BAR	-	Basic Airwork Recognition
CDI	-	Course Deviation Indicator
CHUM	-	Chart Updating Manual
CNATRA	-	Chief of Naval Air Training
CO	-	Commanding Officer
CRM	-	Crew Resource Management
CTS	-	Course Training Standards
DA	-	Decision Altitude
DME	-	Distance Measuring Equipment
DRAFT	-	Destination, Route, Altitude, Fuel, Time
EOB	-	End of Block
EP	-	Emergency Procedure
ET	-	Extra Training
ETA	-	Estimated Time of Arrival

ETE - Estimated Time Enroute

FAA - Federal Aviation Administration

FAF - Final Approach Fix

FAR - Federal Aviation Regulations

FPC - Final Progress Check

FSS - Flight Service Station

FTI - Flight Training Instruction

FWOP - Fixed-Wing Operating Procedures

GCA - Ground-Controlled Approach

GPS - Global Positioning System

H/X - Hours per Event

IAF - Initial Approach Fix

IAW - In Accordance With

ICS - Intercommunication System

IFR - Instrument Flight Rules

IFS - Introductory Flight Screening

IMS - International Military Student

IMSO - IMS Officer

IP - Instructor Pilot

IPC - Initial Progress Check

KIAS - Knots Indicated Airspeed

LECT - Lecture

LOC - Localizer

MAP - Missed Approach Point

MCF - Mission Completion Fuel

MDA - Minimum Descent Altitude

MIF - Maneuver Item File

MIL - Mediated Interactive Lecture

MPAS - Squadron Average PAS

MTR - Military Training Route

NATOPS - Naval Air Training and Operating Procedures Standardization

NAVAID - Navigational Aid

NFO - Naval Flight Officer

NG - No Grade

NM - Nautical Miles

NMU - Number of Marginals and UNSATs

NORDO - No Radio

NOTAMs - Notices to Airmen

NSS - Naval Standard Score

OFT - Operational Flight Trainer

OPSO - Operations Officer

PAR - Precision Approach Radar

PAS - Phase Aggregate Score

PCL - Pocket Checklist

PMSV - Pilot-to-Metro Service

PTP - Point-to-Point

RA - Radar Approach

RAIM - Receiver Autonomous Integrity Monitoring

RNAV - Area Navigation System

RRU - Ready Room Unsatisfactory

SA - Situational Awareness

SDPAS - Standard Deviation of Squadron PAS

SMS - Student Monitoring Status

SNFO - Student Naval Flight Officer

SOP - Standard Operating Procedure

SS - Self-Study

SSR - Special Syllabus Requirement

SUA - Special Use Airspace

TBD - To Be Determined

TOT - Time-On-Target

TPC - Tactical Pilot Chart

TRAWING - Training Wing

TRB - Training Review Board

UHF - Ultra High Frequency

UMFO - Undergraduate Military Flight Officer

UNSAT - Unsatisfactory

UTD - Unit Training Device

VDP - Visual Descent Point

VFR - Visual Flight Rules

VHF - Very High Frequency

VMC - Visual Meteorological Condition

VNAV - Visual Navigation

VOR - Very High Frequency Omnidirectional Range

XO - Executive Officer

GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 84-89.

2. Aviation Training Form. A grade sheet documenting student performance for all categories of training regardless of media, phase, or stage.

3. Aviation Training Jacket. The aviation training jacket (ATJ) is the student's training record. It contains aviation training forms, calendar card, grade reports, and all other associated training information. It is filed in student control and follows the student through all phases of training.

4. Block of Training. A sequential series of lessons within a training stage sharing identical MIFs. The third character in the lesson designator identifies a block.

5. Blue ATF. A standard ATF that is printed on blue paper. The blue ATF is used to denote a Marginal event. Blue ATFs are also used to outline Student Monitoring Status requirements.

6. Check Ride (SXX90). A flight check in any stage of training.

7. Class Advisor. An instructor assigned to provide counseling and guidance to a specific class throughout the applicable syllabus.

8. Course of Training. The entire program of preflight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.

9. Course Training Standard (CTS). A description of required behaviors and standards of performance for a specific maneuver. These standards are in Chapter IX.

10. Courseware. The technical data, flight training instructions, audio, video, film, mediated interactive lecture, computer-assisted instruction, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.

11. Critical Item. Any maneuver coded with a plus sign (+). This symbol indicates the maneuver is required and must be accomplished to the specified standard in that block of training.

12. Deliverables. A CNATRA 1542/1827 TRB Summary Form generated by the TRB that summarizes a specific student's progress in a given syllabus and provides detailed information on the application of UMFO training for that student. Deliverables indicate whether the quality and continuity of training provided was IAW CNATRAINST 1542.163.

13. Drop on Request. A student's voluntary option to request termination of training IAW CNATRAINST 1500.4G.

14. Emergency Procedure. Any degradation of aircraft systems or flight conditions requiring pilot action or intervention.

15. End of Block. Last event in block. The student must meet or exceed MIF on all critical items and all optional items attempted in the block to progress past EOB.

16. Extra Training (SXX87). Additional student training flights ordered by the Operations Officer (OPSO) or higher, in order to make up for Squadron/IP instructional deficiencies.

17. Final Progress Check (SXX89). A special check normally given by the Commanding Officer (CO) or Executive Officer (XO). The CO may delegate Final Progress Check (FPC) duty to a qualified O-4 or above, in the event that neither the CO nor XO are qualified or available to instruct in the required stage. A satisfactory FPC returns the student to normal syllabus flow. An UNSAT FPC results in a TRB. An FPC can be the result of an UNSAT Initial Progress Check (IPC) in the ready room or flight environment or can be command-directed.

18. Fixed-Wing Operating Procedures Manual. A training wing directive describing standard operating procedures for local fixed-wing aircraft.

19. Flight Training Instruction. A CNATRA-approved manual describing flight procedures and techniques for each training stage.

20. Hours per X. The average length for each event in a block, rounded to the nearest tenth of an hour.

21. Initial Progress Check (SXX88). A special check given by the OPSO or his representative as designated in writing by the CO. A satisfactory IPC returns the student to normal syllabus flow. An UNSAT IPC results in an FPC.

22. Lesson Designator. All syllabus events have a five-character lesson designator in the following format:

Char	Meaning	Remarks
1st	Stage	G—Ground I—Instrument F—Formation
2nd	Media	0—Ground Event 4-Aircraft
3rd	Block	Sequential, indicating block within stage.
4th & 5th	Event/ Check Identifier	Sequential, indicating event within block, or other event types as shown below: 84—Adaptation Flight 87—Extra Training 85—Practice Sim 88—Initial Progress Check 86—Warmup 89—Final Progress Check 90—Check Ride

23. Maneuver Item File. A listing of required maneuvers and associated proficiency levels for each block of training.

24. Master Syllabus. Chapters I-VII list all training syllabus activities, prerequisites, and desired training flow for UMFO.

25. Outcomes. Potential courses of action following a Progress Check. There are only two basic outcomes:

a. Pass - Return to training.

b. Fail - Proceed with the attrition process/attrite.

26. Phase of Training. A major division in the course of training. The UMFO syllabus consists of Primary (Primary 1 and 2), Intermediate, and Advanced (Strike Fighter and Maritime Command and Control) phases of training.

27. Pink ATF. A standard ATF that is printed on pink paper. The pink ATF is used to denote an UNSAT event generating a progress check.

28. Progress Check Pilot. An instructor pilot authorized and designated in writing by the CO to administer Initial or Final Progress Checks.

29. Ready Room UNSAT (RRU). An UNSAT grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, or deficient preflight planning.

30. Special Syllabus Requirement. One time, ungraded demonstration item(s).

31. Stage of Training. All training of a particular type (Ground, Instrument, Formation) within a phase. The first letter in the lesson designator identifies the stage of each lesson (Example: I4301 is in the Instrument stage).

32. Standard Operating Procedure. A training wing or squadron directive describing SOPs for local aircraft.

33. Student Monitoring Status. SMS is a squadron-initiated status to address substandard student performance.

34. Training Media. UMFO media include aircraft (T-6A), ground training, and academics (MIL) events. The second character in the lesson identifier designates the training medium.

35. Training Review Board. A fact-finding board appointed to conduct an administrative review of circumstances and procedures relative to an FPC recommendation for a student’s attrition.

36. Training Time Out. Cessation of any training evolution initiated when a student or instructor expresses concern for personal safety or a condition warrants clarification of procedures or requirements IAW CNATRAINST 1500.4G.

37. Warmup Event(s) (SXX86). Additional events given to allow a student to regain a level of proficiency previously demonstrated which has diminished due to an extended break in training.

38. Yellow ATF. A standard ATF that is printed on yellow paper. The yellow ATF is used to denote an UNSAT event that does not generate a progress check.

Chapter I

General Instructions

1. Syllabus Management

a. Distribution. Participating squadron personnel.

b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).

c. Deviations. Document all deviations on the event's ATF.

d. Changes. Recommended changes shall be submitted IAW CNATRAINST 1550.6E.

e. Execution. All students execute Intermediate events.

f. Syllabus Description. Intermediate UMFO is flown in the Intermediate training platform and is divided into stages. Stages are grouped by like-flight training regimes such as Section Instruments and Section Visual Navigation. Each stage is subdivided into training blocks. The training blocks consist of a specified number of flights. MIFs identify the minimum acceptable level of performance in relation to the CTS that must be achieved at the completion of each training block.

g. Grade Calculation

(1) Phase Aggregate Score (PAS). An SNFO's PAS is a comparative ranking based on the previous population of completers for a specific phase of aviation training. PAS indicates only SNFO performance relative to a normative population of other recent SNFOs. Under the UMFO system, PAS is not by itself an indication of whether an SNFO has met the criteria necessary for winging or continuation in aviation training.

(2) UMFO SNFO Calculations. From a population of previous SNFOs, an SNFO's PAS is calculated using equation (1), below:

$$SNFO\_PAS = 50 + 10 * \left(0.81 * \frac{S - M1}{S1} + 0.1 * \frac{M2 - NMU}{S2} + 0.09 * \frac{Acad - M3}{S3} \right) \quad (1)$$

Where

S – SNFO Score
NMU – SNFO NMU
Acad – SNFO Academic Grades
M1 – Squadron Average Score
M2 – Squadron Average Number of Marginals and UNSATs
M3 – Squadron Average Academic Grades
S1 – Standard Deviation of Squadron Score
S2 – Standard Deviation of Squadron NMU
S3 – Standard Deviation of Squadron Academic Grades

(3) Naval Standard Score (NSS). NSS is calculated to correct for potential non-normality in the distribution of PAS. NSS is calculated from PAS by using equation (2), below:

$$NSS = 50 + 10 * \left(\frac{PAS - MPAS}{SDPAS} \right) \quad (2)$$

Where

PAS – SNFO PAS
MPAS – Squadron Average PAS
SDPAS – Standard Deviation of Squadron PAS

h. Accelerated Students. Students with significant prior flight time, excluding Introductory Flight Screening (IFS) or IFS equivalent, may be considered accelerated. During the accelerated period, the student may progress to the next block of training once MIF is met within the current block of training. Squadron COs have the authority to tailor the student's accelerated syllabus based on the student's past flying experience. ATFs for the events not flown will be completed with a note in the remarks section stating "ACCELERATED-EVENT NOT FLOWN. ATF COMPLETED FOR ADMINISTRATIVE PURPOSES ONLY IAW CNATRAINST 1542.163."

2. Training Management

a. Syllabus Progression. Fly syllabus events within each stage sequentially. Do not start a block without all prerequisites. Students must complete all events. System training management is designed to facilitate two graded events (flight, simulator, or exam) per student per day.

b. Maneuver Continuity. Students must accomplish previously introduced maneuvers frequently enough to ensure maintaining required proficiency.

c. Hours per Event (H/X). Instructors shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hrs, the instructor shall annotate reason(s) in the ATF's general comments section.

d. Special Syllabus Requirements. There are no SSRs for this phase of training.

e. ATJ Reviews. Class Advisors will conduct jacket reviews at least monthly. SMS students require weekly ATJ reviews.

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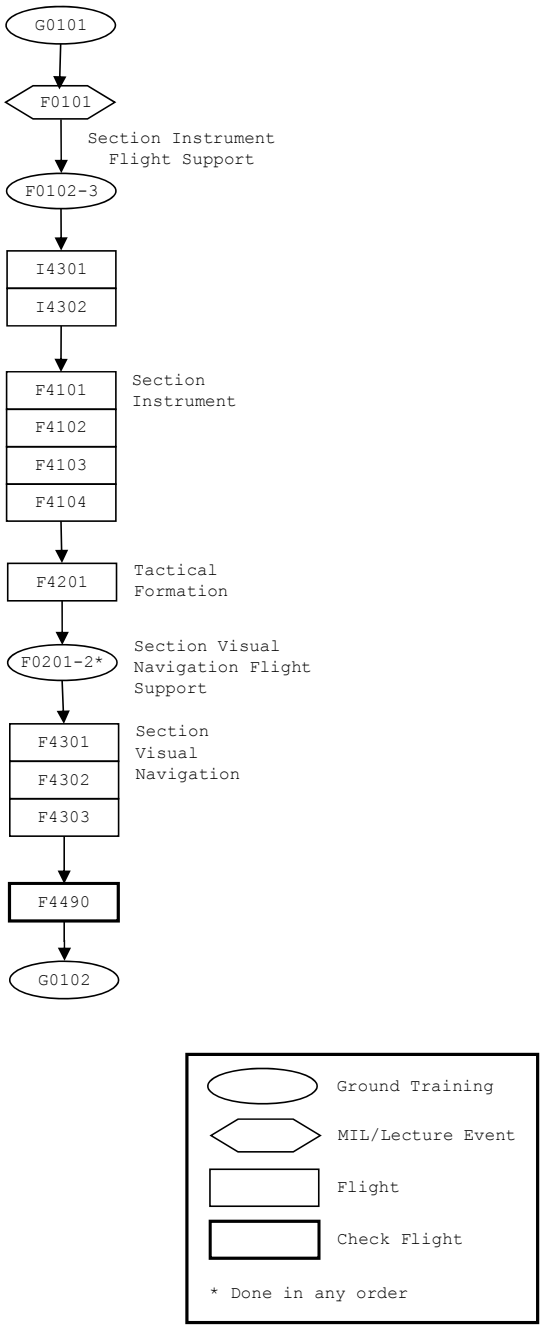
UMFO COURSE FLOW
(INTERMEDIATE)



3. Unsatisfactory (UNSAT) Performance. (See ***Progress Check Procedures, Chapter I, paragraph 10c(3)***.)

a. Flight

(1) If syllabus events remain in the block, the student shall progress to the next syllabus event, until the second consecutive UNSAT or third cumulative UNSAT in the block.

(2) If no syllabus events remain, repeat the last syllabus event in the block until the student meets MIF, or until the second consecutive UNSAT or third cumulative UNSAT in the block.

(3) An UNSAT check ride (SXX90), two consecutive UNSATs, or three cumulative UNSATs (in the same block) result in an IPC. Document the failed check ride or second consecutive/third (in block) cumulative UNSAT on a pink ATF for that syllabus event.

(4) A subsequent check ride failure, two further consecutive UNSATs, or three more cumulative UNSATS (in block) result in an FPC. Document the failed check ride or second consecutive/third (in block) cumulative UNSAT on a pink ATF generating the progress check.

(5) Failing an FPC results in a TRB.

b. Ready Room UNSAT (RRU)

(1) An initial RRU on any syllabus event(s) will result in an IPC. Document the RRU on a pink ATF for that event. The event will be marked as incomplete with an Unable (U/2) grade for General Knowledge/Procedures and/or Emergency Procedures. On remediation of UNSAT performance, the event will be flown to completion, and the Unable grade will be incorporated into the overall grading solution.

(2) A second or subsequent RRU, failed IPC, or triggering UNSAT flight event will result in an FPC.

(3) Failing an FPC will result in a TRB.

c. Academic. Failing two exams triggers an IPC or FPC as appropriate.

d. Remediation

(1) A dual simulator or ground evaluation emphasizing the deficient areas may clear an UNSAT check ride or end of block syllabus event caused solely by ground operations.

(2) EOB UNSAT syllabus events in the instrument stage may be cleared in the simulator if these conditions are met:

(a) The cause of the UNSAT is specific to the maneuver.

(b) The simulator is suited to the failed maneuver.

e. Restrictions. Until remediating the UNSAT:

(1) The student shall not accomplish training in any other stage.

(2) The student may accomplish academic classes, examinations, and ground training missions provided the UNSAT mission was not a prerequisite.

4. Training Review Board

a. Scope. Consider the circumstances relevant to the student's training, for example:

(1) Quality of training provided IAW applicable FTI.

(2) Continuity of training provided.

(3) Outside influences/extenuating circumstances.

(4) The TRB ***shall not*** make attrition/retention recommendations based on perceived student potential or aspects unrelated to the administrative application of training IAW this directive.

b. Composition

(1) Voting Members. The board consists of three voting members, one of which is the Senior Member. The TRAWING Commodore designates the Senior Member in writing.

(2) Other Members/Observers. At least one member will be from the student's parent service. For an IMS, where possible, include the country liaison officer and the TRAWING IMSO as observers.

(3) Academic Failures. TRBs convened due to academic failures may include one qualified civilian instructor as a voting member.

(4) Exclusion. The following persons are prohibited from serving as a voting member on a student's TRB:

(a) The student's on-wing.

(b) Any instructor who has sat on a previous TRB for the student.

(c) Any instructor who has awarded an UNSAT to the student in the relevant training stage.

(d) The squadron IMSO, in the case of an international student.

c. Deliverables

(1) A report assessing the student's training quality, highlighting any deficiencies of training received. If it was determined that there was a deficiency in training, the board shall recommend remediation of the student for subsequent return to training.

(2) CNATRA 1542/1827, TRB Summary form, shall be used to document the proceedings.

5. Instructor Continuity. There are no continuity requirements unless specified by the operations department for SMS students.

6. Break in Training Warmup Events (SXX86). Nonsyllabus warmup events compensate for breaks in training. Eligibility is based on the number of days since the last flight in the same stage. All warmups shall be dual and coded as an SXX86 (e.g., I4186). Warmup grades do not satisfy block or MIF requirements and shall not be included in the cumulative totals.

a. Warmups Between Stages. Warmup events shall not be given prior to the first flight in a stage unless 30 days have elapsed since any syllabus flight event.

b. Optional Warmup Criteria. Optional warmup criteria are defined in CNATRAINST 1500.4G. Optional warmup events are based on the student's performance. If the student is in the optional warmup window and their performance meets MIF (is sufficient to meet MIF by the end of block), the event shall count as the next syllabus event. If the student's performance is marginal or UNSAT, the event will be coded as a warmup.

c. Additional Warmup Events. The squadron CO may direct additional warmup flight events for extended breaks in training (greater than 30 days).

CRITERIA FOR AWARDING WARMUP EVENTS IN A STAGE OR BLOCK		
Break* (Days)	**Warmup Events**	**Remarks**
7-13	1 Optional	• Based on performance. • Required if overall event grade is Marginal or UNSAT. • Prohibited if: ► Performance meets MIF/standard or is adequate to meet MIF by EOB. ► Break occurs between stages (see paragraph 6a).
14	1 Mandatory 1 Optional	• Mandatory warmup is not an advancing "X." • Optional warmup based on performance. • Required if overall event grade is Marginal or UNSAT.

*Break = (Current Julian Date) – (Julian Date of last event, regardless of stage).

7. Additional Flights

a. Extra Training (ET) Events (SXX87). All ET shall be dual and coded as SXX87 (e.g., I4387).

(1) ET events include, but are not limited to, IPC/FPC ET events. Normally, award these events to compensate for training inadequacies, e.g., poor event/ maneuver continuity or improper instruction.

(a) Preceding an IPC. The OPSO may authorize one ET prior to an IPC.

(b) Preceding an FPC. The CO may authorize as many as two ETs prior to an FPC.

(c) IPC/FPC 87 events ***shall not*** be awarded to remediate UNSAT student performance unrelated to unit/instructional training inadequacies.

(d) Document the awarding of IPC/FPC 87 events on supplemental ATFs.

(2) If the ET does not meet the objectives, the OPSO or above decides if an additional event is warranted.

b. Adaptation Events (SXX84). The OPSO may grant events required for adaptation to the flying environment when requested by the flight surgeon, e.g., airsickness, eyeglasses, etc.

8. Student Monitoring Status (SMS)

a. Any student who is designated Marginal shall be placed on SMS. The objective of SMS is to focus supervisory attention to a student’s progress in training, specific deficiencies, and potential to complete the program. SMS may also be applied to students who require supervisory attention while trying to resolve personal issues.

b. The operations department will place the student on SMS to address substandard performance in a specific area.

c. SMS is intended as a short-term program. SMS requires the setting of specific goals. SMS should include, but is not limited to, training tailored to correct deficiencies as determined by the OPSO or to address personal issues as determined by the Class Advisor. The goals and the required period on SMS must be annotated on a blue supplemental ATF in the student's ATJ.

d. A student who receives two UNSATs in a block of training, or three UNSATs within a single stage of training shall be considered Marginal and placed on SMS.

e. If the student achieves the goals within the SMS period, or when personal issues are resolved, the student returns to normal training flow. If the student is unable to meet the specific goals of SMS or performance does not improve, the student shall progress to an FPC.

9. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The IP shall carefully review the ATS in planning the EOB event to ensure the profile includes opportunities to reach MIF on all critical and optional items attempted in the block.

(2) Preparation. Students shall arrive for each flight with:

(a) A thorough knowledge of:

1. The flight's discuss items, as listed in Chapters V and VII.

2. Procedural knowledge of the critical and optional items for the event's training block.

(b) A flight profile tailored to training requirements, weak areas, and continuity.

(c) The latest ATF for the stage.

(d) Discuss items from the daily flight schedule.

(3) Briefing. Thoroughly cover the mission's:

(a) Event discuss items, as listed in Chapters V and VII.

(b) Specific objectives.

(c) Techniques and required procedures for accomplishing those objectives.

(d) Planned profile and contingencies.

(4) Debriefing

(a) After each event, the instructor shall critique the student's performance using cause/effect analysis, particularly with respect to the CTS.

(b) The mission's complexity and student's progress will govern the time required for the debrief.

b. Emergency Procedures (EP) Briefing and Training

(1) EP training builds the student's confidence in the aircraft. The IP shall conduct EP training on all aircraft events, either on the ground or in the aircraft. Correct procedural deficiencies through additional instruction and study assignments.

(2) Grade the student's overall EP knowledge and performance under Emergency Procedures.

10. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. MIFs listed are minimum stage/phase completion standards per maneuver. Students who consistently perform at the absolute minimum standard through multiple stages/phases may not possess the skills required to complete follow-on training. A MIF is designed to allow for minimum performance in a specific area with the understanding that performance above the minimum MIF will offset the weak area.

b. Grading Procedures (Aircraft and Training Devices)

(1) Absolute Maneuver Grading. Use the following grading scale to document the student's characteristic performance on maneuvers attempted during each event. This is an absolute grading scale. Judge the student's proficiency ***only*** against the item's CTS. Maneuver grades shall be consistent with ATF comments.

(a) Demonstrated (NG/1 Level). When the IP demonstrates the maneuver and the student does not subsequently perform it during the event.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations, or aggravate the deviation.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Characteristic performance is within CTS. Deviations outside CTS are allowed, provided they are brief, minor, and do not affect safety of flight. Corrections must be appropriate and timely.

(e) Excellent (E/5 Level). Greatly surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. The student initiates corrections, if required, and they are appropriate, smooth, and rapid.

(2) Overall Event Grades. Overall event grades represent the student's progression through the syllabus. Grade events "Pass," "Marginal," or "UNSAT." Use the following definitions to characterize event grades. See ***Awarding Overall Event Grades*** for specific rules defining UNSAT performance.

(a) Pass

1. Prior to EOB: progress is adequate to meet standards by EOB.

2. EOB: the student's performance meets or exceeds standards.

(b) Marginal. Ability to meet the standards by EOB is questionable. IPs may not award a Marginal on an EOB event or check ride.

(c) UNSAT. Student exhibits dangerous tendencies, or progress toward meeting EOB standards is insufficient.

(3) Awarding Overall Event Grades. The student's overall grade is based on the student's performance against the MIF. The following rules govern overall event grading:

(a) EOB MIF Performance. Performance must meet MIF by EOB. If the student has previously met MIF in the block, he or she must still meet MIF in the EOB flight.

(b) Prior to EOB. Performance must meet/exceed previous block MIF. Example:

1. F42 MIF requires an F/3 for Headwork/ Situational Awareness. F43 MIF requires a G/4.

2. The student must meet or exceed F/3 to progress out of F42.

3. The student must maintain or exceed F/3 until the last F43 event, by which time the student must attain G/4.

(c) MIF Performance Maintenance. Students shall maintain or exceed MIF performance from one block to the next within a stage or between media within a stage. The exception is when MIF on a subsequent block is below the preceding block MIF. In these cases, the lower MIF applies.

(d) Regression Rules. Regression rules address uneven progress through training. Regression rules do not apply to the first block in each stage. The following specifies allowable regression:

1. The student is allowed up to two maneuver grades of F/3 where a G/4 is required on previous block MIF, and:

a. The student has previously demonstrated G/4 proficiency when a G/4 was required on previous block MIF,

b. The maneuver was not a check ride critical (+) item,

c. The IP is satisfied the student is ready to progress to the next event.

2. The IP shall award an overall UNSAT due to regression rules if:

a. Regression was to a U/2 where F/3 or G/4 is required on the previous block MIF, or

b. Performance on the same maneuver for two consecutive events resulted in an F/3 where a G/4 was required on previous block MIF, or

c. There was regression on more than two items during one event.

(4) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus (+) are mandatory and the student must meet the required proficiency by EOB.

(b) Optional Items. Items with a number, but without a plus (+), are optional; however, if flown, the student must meet the required proficiency by EOB.

(c) Not Demonstrated/Not Performed. The IP will not demonstrate, nor will the student perform:

1. Unnumbered items.

2. Items not in the stage.

3. Exceptions:

a. Weather-driven instrument approaches.

b. Prebriefed maneuvers for IP proficiency.

(5) Incomplete Events. In general, IPs should consider an event complete if able to accomplish either all high or all low work. This rule is particularly true when weather precludes one or the other, and the IP is able to emphasize training where weather permits. Subsequent events in the block, when available, can reverse this emphasis, hence achieving overall training balance. If a student has had ample opportunity to learn a task and subsequently flies a short mission, the mission shall not be incompleted solely to provide unwarranted extra training.

(a) Assessment. Assess the event complete if:

1. Seventy-five percent of the event's H/X was used for training, and

2. Sufficient events remain in the block to redress the imbalance, and

3. Individual maneuvers can still be accomplished within the block.

4. Otherwise, assess the event incomplete.

(b) Completion Events

1. An event may both complete a previous event and count as an advancing X.

2. For events flown exclusively to clear an incomplete, grades on maneuvers repeated from the incomplete event do not count toward the student's PAS, except where the grade assigned for the repeated item is lower than the lowest grade previously assigned on that item across all previous attempts at that event.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Authorized Evaluators. The squadron commander will designate check pilots for each stage.

(2) Check Rides (SXX90).

(a) Single-Event Training Blocks. Check rides amount to single-event training blocks; therefore, all rules regarding progressing out of a block apply, except as noted below.

1. Should fly a representative cross section of optional maneuvers.

2. Up to two optional maneuvers may be graded F/3 where G/4 is required without requiring an overall UNSAT.

3. The entire event should be devoted to assessing the student's ability and readiness to progress to the next stage of training. All maneuvers indicated with a plus (+) are check ride critical and must be accomplished to MIF. ***Regression rules do not apply.***

4. The student should be able to demonstrate required levels of proficiency without instructor assistance; however, instruction is allowed on check rides and students may reaccomplish maneuvers at the check pilot's discretion.

(b) Incomplete Check Ride. The check ride shall be incomplete when:

1. Any critical (+) item was not flown, or

2. The check pilot was unable to sample sufficient examples of a given maneuver to assess the student's overall performance.

Note: The subsequent flight need only include maneuvers required to complete the check.

3. Exceptions. The check is complete and the overall grade is UNSAT if:

a. Any critical (+) item is below MIF, or

b. More than two optional items were graded F/3 where G/4 is required, or

c. Any maneuver is U/2.

(c) UNSAT Check Ride - Ground Operations. A check ride graded UNSAT solely for ground operations requires a progress check. The OPSO will decide whether to perform the progress check as a ground evaluation, in the simulator, or in the aircraft.

(3) Progress Check Procedures

(a) The Progress Check Pilot shall consider the student's proficiency, judgment, air sense, and overall ability to maneuver the aircraft safely and confidently. The student must also demonstrate the potential to successfully complete intermediate ***and advanced training***. All progress checks must meet MIF for the most recently completed block of training. Progress checks shall be full mission profiles emphasizing the student's weak areas and a representative cross section of area and pattern maneuvers. All critical items do not need to be accomplished. Document failed progress checks on a pink ATF for the failed event generating the progress check.

(b) IPC. The following defines when to conduct an IPC, IPC outcomes, and IPC IPs.

1. Criteria for an IPC are:

a. Failed check ride.

b. Two consecutive or three cumulative UNSAT events in the same block, not including XX87 events.

c. Following an RRU.

d. Following two academic test failures.

e. OPSO or above may direct when the student's potential to complete the syllabus is in doubt.

2. Outcomes are:

a. Passing returns the student to normal syllabus flow.

b. Failing results in an FPC.

3. IPC IPs. The OPSO or his representative designated by the CO in writing, usually a designated standardization pilot, shall administer the IPC. Neither the student's on-wing nor the IP that generated the UNSAT grade resulting in the IPC shall administer the IPC. A qualified IPC IP shall monitor and evaluate an IPC conducted in a simulator. The squadron IPC IP is required to make a "return to training" or "continue the attrition process" recommendation to the squadron CO.

(c) FPC. The following defines when to conduct an FPC, FPC outcomes, and FPC IPs.

1. Criteria for an FPC are:

a. Following a failed IPC.

b. If the conditions requiring an IPC exist, and the student has already accomplished an IPC in phase.

c. CO directs FPC when the student's potential to complete the syllabus is in doubt.

2. Outcomes are:

a. Passing returns the student to normal syllabus flow.

b. Failing results in a TRB.

3. FPC IPs. The CO, Executive Officer (XO), or a CO-designated representative administers the FPC. It is the intent of CNATRA that wherever possible the CO or, in his absence, the XO conducts FPCs. In the event that neither the CO nor XO are qualified or available to instruct in the required stage, the CO may designate a senior officer (O-4 or above) to conduct the FPC by direction. Neither the student's on-wing nor the IP that generated the UNSAT grade resulting in the FPC shall

administer the FPC. A qualified FPC IP shall monitor and evaluate an FPC conducted in the simulator. The FPC IP is responsible for a return to training decision or an attrition recommendation to the Commander, Training Air Wing SIX.

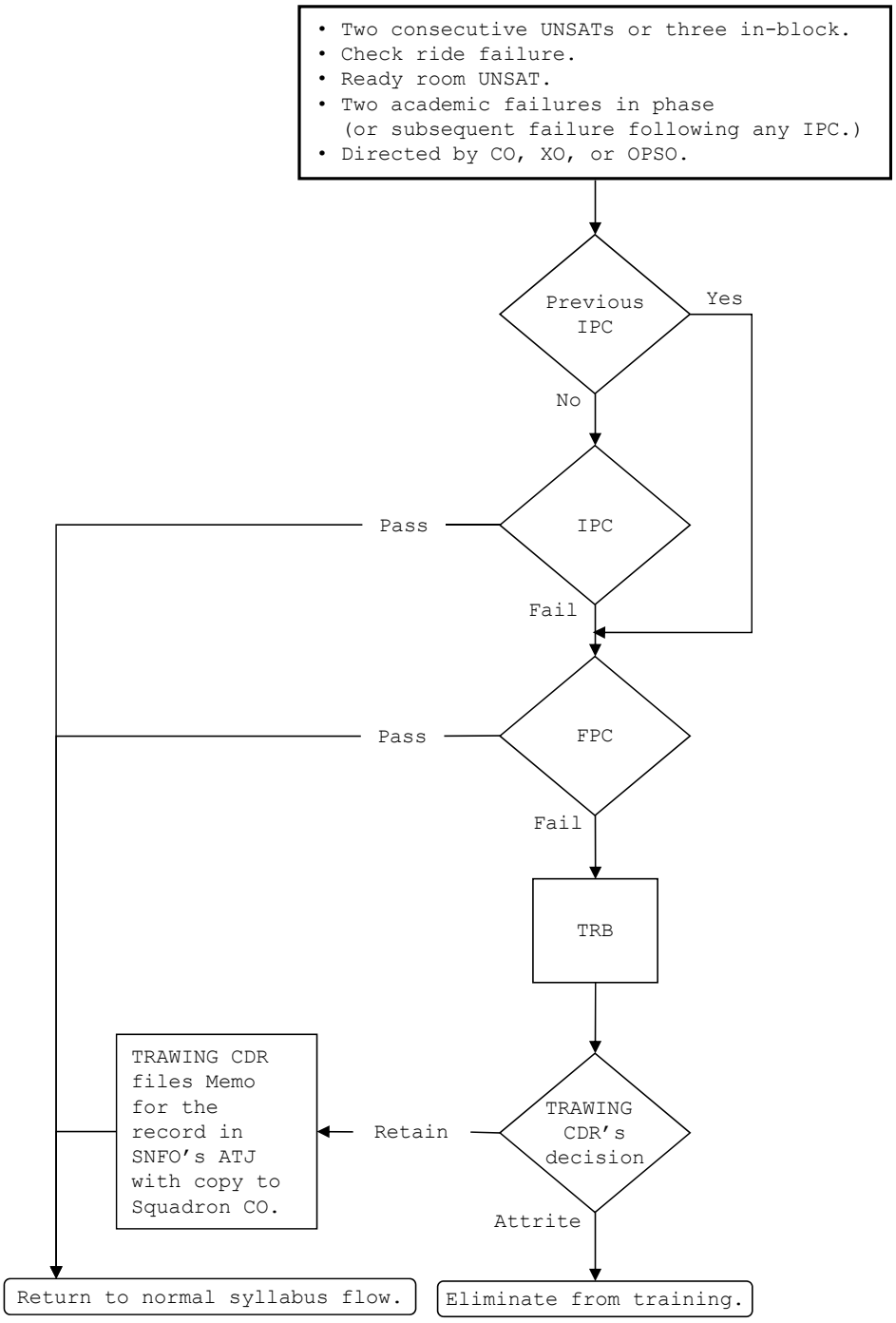
d. Progress Check Counseling

(1) Prior to an IPC. The operations department shall counsel the student on the progress check training review process and document counseling on a supplemental ATF.

(2) Upon Completion of an IPC. The IPC IP or OPSO shall counsel the student on the progress check training review process. When conducted by the IPC IP, document counseling on the IPC ATF. When conducted by the OPSO (and the OPSO was not the IPC IP), document counseling on a supplemental ATF.

(3) Upon Satisfactory Completion of an FPC. The CO or his designated representative will counsel the student. Counseling should consist of the progress check training review process, attrition/retention recommendations, and future courses of action. The CO shall document counseling on the FPC ATF. If conducted by a designated representative, document counseling on a supplemental ATF.

UMFO PROGRESS CHECK TRAINING REVIEW PROCESS



11. Special Instructions and Restrictions

a. Flight Hour/Event Requirements and Restrictions

(1) Programmed Hours and Events. Programmed syllabus flight hours are 16.5 hours. Event lengths or SXX86, 87, 88, and 89 events will cause variation. Accomplish all syllabus events.

(2) Minimum Night Hours. N/A.

(3) Minimum Solo Hours. N/A.

(4) Minimum Instrument Hours (Actual or Simulated). N/A.

(5) Maximum Daily Student Activities. Students shall not exceed two activities during one duty day or three flights during cross-country flights.

(6) Minimum Student Turn-Times. One hour is required between debriefing of a dual event and the brief for a follow-on dual event. This requirement does not apply to out-and-in or cross-country profiles; however, the instructor shall ensure adequate debrief and brief time is allocated.

(7) Crew Day. The period from the beginning of the student's first event or official duty of the day until the completion of the last event of the day, including associated debrief and paperwork. Crew day shall not exceed 12 hours.

(8) Crew Rest. A minimum of 12 hours shall elapse between the conclusion of the student's last scheduled event of the day (including associated debrief) and his or her first scheduled instructional event of the following day.

b. Maneuver Demonstrations. The student shall not perform a maneuver for the first time until the IP demonstrates the maneuver, unless previous training adequately fulfills this role.

c. Airspace Utilization. Conduct section events in designated areas. These events may be out-and-ins or cross-country flights with OPSO approval.

Chapter II

Ground Training

1. Use of Preflight Training Time. Hours are available during the Preflight Stage to schedule briefings, aircraft exterior and interior inspections, learning center programs, study sessions, or any other activities that will enhance the student's training and preparation for Intermediate. If considered more beneficial, these hours may be used for academic training.

Blk #	Media	Title	Events	Hrs	Blk Name
G01	Class	Administration	2	2.25	ADMIN

1. Prerequisite. F4490 prior to G0102.

2. Events

G0101	Lect	Intermediate Check-in	0.25
G0102	Lect	Intermediate Checkout	2.00

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F01	Class	Section Instrument Navigation Flight Support	3	9.5	SECINST

1. Prerequisites

   a. G0101 prior to F0101.

   b. F0101 prior to F0102-3 (in order).

2. Events

F0101	MIL	Intermediate Formation Ground Training	3.0
F0102	SS	Section Instrument Navigation Familiarization Self-Study	5.0
F0103	SS/ UTD	Section Instrument Navigation Event Rehearsal	1.5

3. Syllabus Notes. F0103 should be accomplished in the UTD without an instructor (formally scheduled event).

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F02	Class	Section Visual Navigation Flight Support	2	13.5	SECVNAV

1. Prerequisite. F4201 prior to F0201-2 (any order).

2. Events

F0201	SS	Section Visual Navigation Chart Prep Self-Study	12.0
F0202	SS/ UTD	Section Visual Navigation Event Rehearsal	1.5

3. Syllabus Notes. F0202 should be accomplished in the UTD without an instructor (formally scheduled event).

4. Discuss Items. None.

Chapter III

NATOPS Training

This chapter does not apply to the UMFO Intermediate phase of training.

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Chapter IV

Contact Training

This chapter does not apply to the UMFO Intermediate phase of training.

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Chapter V

Instrument Training

1. Seating. Students shall occupy the rear cockpit during this stage.

2. Matrices. There is a single matrix following the block description of the only block in this chapter. The purpose of this matrix is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF.

3. Stage MIF. None.

Blk #	Media	Title	Events	Hrs	H/X
I43	T-6A	Instrument Navigation	2	3.0	1.5

1. Prerequisite. F0103 (Section Instrument Navigation Event Rehearsal).

2. Syllabus Notes

a. Flights in this block shall be flown as a single aircraft.

b. Flights should be flown as out-and-in or cross-country events to the maximum extent possible.

c. Students shall prepare and have available a DD-175 and flight log for both primary and alternate routes on each event.

d. A minimum of four instrument approaches shall be performed in block to include at least one GPS and at least one RA/GCA.

e. A minimum of five touch-and-goes in the VFR landing pattern shall be accomplished in block.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4301
T-6A type/equipment code, loading flight plan in the GPS, GPS enroute procedures, RAIM, RNAV/GPS approach procedures, bingo/divert profile and execution, and VFR landing pattern.

I4302
Any EP and any limitation.

5. Block MIF

CTS REF	MANEUVER	I4302
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+

MIF continued on next page.

CTS REF	MANEUVER	I4302
3	Composite Headwork/Situational Awareness	4+
4	BAR	4+
5	CRM/Crew Coordination	4+
6	NFO Responsibilities	4+
7	Mission Planning	4+
8	Brief/Debrief	4+
9	Ground Procedures	4+
10	Radio Procedures	4+
11	Departure	4+
12	In-Flight Checks	4+
13	Mission Ownership/Assertiveness	4+
14	In-Flight Planning	4+
15	Use of ATIS/PMSV/FSS	4+
16	In-Flight Briefings	4+
17	Fuel Management/Analysis	4+
18	In-Flight Computations	4+
19	Enroute Procedures	4+
20	Point-to-Point	4+
21	Instrument Turnpoint Procedures	4+
22	Arcing	4
23	Holding (VOR)	4
24	Holding (GPS)	4+
25	VOR Approach	4
26	GPS Approach	4+
27	Localizer Approach	4
28	ILS Approach	4
29	Circling Approach	4
30	RA/GCA	4+
31	Missed Approach	4+
41	Landing Pattern	4+

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Chapter VI

Navigation Training

This chapter does not apply to the UMFO Intermediate phase of training.

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Chapter VII

Formation Training

1. Seating. Student shall occupy the rear cockpit during this stage.

2. Matrices. The following matrix is an overview of the entire Section Stage. The purpose of this matrix is to provide the student and IP the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

3. Stage MIF

Check Ride Event

SECTION STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**F4104**	**F4201**	**F4303**	**F4490**
1	General Knowledge/Procedures	4+	4+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+
3	Composite Headwork/Situational Awareness	4+	3+	4+	4+
4	BAR	4+	4+	4+	4+
5	CRM/Crew Coordination	4+	4+	4+	4+
6	NFO Responsibilities	4+	4+	4+	4+
7	Mission Planning	4+	4+	4+	4+
8	Brief/Debrief	4+	3+	4+	4+
9	Ground Procedures	4+	4+	4+	4+
10	Radio Procedures	4+	4+	4+	4+
11	Departure	4+	4+	4+	4+
12	In-Flight Checks	4+	4+	4+	4+
13	Mission Ownership/Assertiveness	4+	4+	4+	4+
14	In-Flight Planning	4+	4+	4+	4+

MIF continued on next page.

SECTION STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**F4104**	**F4201**	**F4303**	**F4490**
15	Use of ATIS/PMSV/FSS	4+	4+	4+	4+
16	In-Flight Briefings	4+	4+	4+	4+
17	Fuel Management/Analysis	4+	4+	4+	4+
18	In-Flight Computations	4+			
19	Enroute Procedures	4+			
20	Point-to-Point	4+			
21	Instrument Turnpoint Procedures	4+			
22	Arcing	4			
23	Holding (VOR)	4			
24	Holding (GPS)	4			
25	VOR Approach	4			
26	GPS Approach	4			
27	Localizer Approach	4			
28	ILS Approach	4			
29	Circling Approach	4			
30	RA/GCA	4			
31	Missed Approach	4+			
32	Taxi and Marshal	4+	4+	4+	4+
33	Formation Takeoff	3+	4+	4+	4+
34	Wingman Communication	3+	3+	4+	4+
35	Section Management/Flight Leadership	3+	3	4+	4
36	Wingman Responsibilities	3+	3+	4+	4
37	Rendezvous	3+	4+	4+	4+
38	Underrun	3	4+	4	4
39	Section Approach Procedures	3+	4	4+	4
40	Section Break	3	4	4+	4
41	Landing Pattern	4+	4	4+	4
42	SUA/MTR Entry/Exit Procedures		4	4+	4+

MIF continued on next page.

SECTION STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**F4104**	**F4201**	**F4303**	**F4490**
43	NAV/Geographic Rendezvous		3+	4	4
44	Visual Lookout		3+	4+	4+
45	Lost Sight Exercise		3+		
46	G-warm		3+	4+	4+
47	Tactical Formation/Maneuvering		3+	3+	3+
48	Tail-Chase/Pursuit Curves		3+		
49	VNAV Chart			4+	4+
50	Turnpoint Identification			4+	4+
51	VNAV Turnpoint Procedures			4+	4+
52	Checkpoint Utilization/Correlation			4+	4+
53	Hazard Calls			4+	4+
54	Course Analysis/Corrections			4+	4+
55	Timing Analysis/Speed Corrections			4+	4+
56	Altitude Selection/Compliance			4+	4+
57	Wind Analysis/Compensation			4+	4+
58	Target Acquisition			4+	4+
59	Section Target Attack			3+	3+

Blk #	Media	Title	Events	Hrs	H/X
F41	T-6A	Section Instrument Navigation	4	6.0	1.5

1. Prerequisite. I4302.

2. Syllabus Notes

a. Flights in this block shall be flown in two-ship formation.

b. Flights should be flown as out-and-in or cross-country events to the maximum extent possible.

c. Students shall prepare and have available a DD-175 and flight log for both primary and alternate routes on each event.

d. Section Management/Flight Leadership shall only be graded for the student performing from the lead aircraft during the flight event.

e. Specific instrument approach maneuver items (VOR, GPS, ILS, LOC, RA/GCA) shall be graded only if the student performed the approach from the lead aircraft. If performing an instrument approach from either the lead or wing aircraft, the student shall be graded on the maneuver item entitled "Section Approach Procedures."

f. A minimum of four instrument approaches shall be performed as lead and four approaches shall be performed as wing in block.

g. A minimum of five touch-and-goes in the VFR landing pattern shall be accomplished in block.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4101
OPNAVINST 3710 formation takeoff minimums, any formation communication procedure, section crew coordination, underrun (NFO responsibilities), section management on instrument approach, section missed approach procedures, and OPNAVINST 3710 formation approach minimums.

F4102
Any formation EP and any limitation.

F4103
Section fuel management, lost sight procedures (under IFR clearance), lead change, individual clearances for departure, individual clearances for recovery, and SOP minimum landing interval.

F4104
Any EP and any limitation.

5. Block MIF

CTS REF	MANEUVER	F4104
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Composite Headwork/Situational Awareness	4+
4	BAR	4+
5	CRM/Crew Coordination	4+
6	NFO Responsibilities	4+
7	Mission Planning	4+
8	Brief/Debrief	4+
9	Ground Procedures	4+
10	Radio Procedures	4+
11	Departure	4+
12	In-Flight Checks	4+

MIF continued on next page.

CTS REF	MANEUVER	F4104
13	Mission Ownership/Assertiveness	4+
14	In-Flight Planning	4+
15	Use of ATIS/PMSV/FSS	4+
16	In-Flight Briefings	4+
17	Fuel Management/Analysis	4+
18	In-Flight Computations	4+
19	Enroute Procedures	4+
20	Point-to-Point	4+
21	Instrument Turnpoint Procedures	4+
22	Arcing	4
23	Holding (VOR)	4
24	Holding (GPS)	4
25	VOR Approach	4
26	GPS Approach	4
27	Localizer Approach	4
28	ILS Approach	4
29	Circling Approach	4
30	RA/GCA	4
31	Missed Approach	4+
32	Taxi and Marshal	4+
33	Formation Takeoff	3+
34	Wingman Communication	3+
35	Section Management/Flight Leadership	3+
36	Wingman Responsibilities	3+
37	Rendezvous	3+
38	Underrun	3
39	Section Approach Procedures	3+
40	Section Break	3
41	Landing Pattern	4+

Blk #	Media	Title	Events	Hrs	H/X
F42	T-6A	Section Tactical Formation	1	1.5	1.5

1. Prerequisite. F4104.

2. Syllabus Notes

a. Students will plan, brief, execute, and debrief a section tactical formation event.

b. Students shall direct/accomplish a NAV/geographic rendezvous for the initial joinup.

c. The lead student during this event will brief/debrief flight admin and conduct to include safety-of-flight, tactical admin, and the sequence of maneuvers. The lead student will utilize the wingman student appropriately in the brief/debrief and for flight planning and brief preparation.

d. "Section Management/Flight Leadership" shall only be graded for the student performing from the lead aircraft during the flight event.

e. If performing an instrument approach from either the lead or wing aircraft, the student shall be graded on the maneuver item entitled "Section Approach Procedures."

3. Special Syllabus Requirements. None.

4. Discuss Items. NAV/geographic rendezvous, lost sight procedures (under VFR clearance), section tactical formation procedures, tail-chase/pursuit curves, and underrun.

5. Block MIF

CTS REF	MANEUVER	F4201
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Composite Headwork/Situational Awareness	3+
4	BAR	4+
5	CRM/Crew Coordination	4+
6	NFO Responsibilities	4+
7	Mission Planning	4+
8	Brief/Debrief	3+
9	Ground Procedures	4+
10	Radio Procedures	4+
11	Departure	4+
12	In-Flight Checks	4+
13	Mission Ownership/Assertiveness	4+
14	In-Flight Planning	4+
15	Use of ATIS/PMSV/FSS	4+
16	In-Flight Briefings	4+
17	Fuel Management/Analysis	4+
32	Taxi and Marshal	4+
33	Formation Takeoff	4+
34	Wingman Communication	3+
35	Section Management/Flight Leadership	3
36	Wingman Responsibilities	3+
37	Rendezvous	4+
38	Underrun	4+
39	Section Approach Procedures	4
40	Section Break	4
41	Landing Pattern	4
42	SUA/MTR Entry/Exit Procedures	4

MIF continued on next page.

CTS REF	MANEUVER	F4201
43	NAV/Geographic Rendezvous	3+
44	Visual Lookout	3+
45	Lost Sight Exercise	3+
46	G-warm	3+
47	Tactical Formation/Maneuvering	3+
48	Tail-Chase/Pursuit Curves	3+

Blk #	Media	Title	Events	Hrs	H/X
F43	T-6A	Section Visual Navigation	3	4.5	1.5

1. Prerequisite. F0201-2 (Section Visual Navigation Flight Support).

2. Syllabus Notes

a. Students will plan, brief, execute, and debrief a section visual navigation event.

b. Students shall lead at least one event in block.

c. Students shall accomplish at least two section instrument approaches in block.

d. Each event in block shall be accomplished on a low-altitude MTR using visual navigation procedures at prescribed route altitudes, no lower than 500 feet AGL.

e. Timing will involve real-world times to the target.

f. The lead student will brief/debrief flight admin and conduct to include safety-of-flight, tactical admin, and the sequence of maneuvers for that specific event. The lead student will utilize the wingman student appropriately in the brief/debrief and for flight planning and brief preparation. If conducting an out-and-in, during which one student will lead the first event and the other student will lead the second event, the lead student will brief/debrief flight admin and conduct for the respective event that he/she leads.

g. "Section Management/Flight Leadership" shall only be graded for the student performing from the lead aircraft during the flight event.

h. If performing an instrument approach from either the lead or wing aircraft, the student shall be graded on the maneuver item entitled "Section Approach Procedures."

i. A minimum of one instrument approach shall be performed as lead and one approach shall be performed as wing in block.

j. A minimum of five touch-and-goes in the VFR landing pattern shall be accomplished in block.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4301
Low-altitude flight safety, crew coordination for low-altitude operations, wingman responsibilities on the MTR, basic section low-altitude target attacks, and target attack abort parameters.

F4302
Any EP and any limitation.

F4303
Real-world strike planning and execution and timing control using real-world time.

5. Block MIF

CTS REF	MANEUVER	F4303
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Composite Headwork/Situational Awareness	4+
4	BAR	4+
5	CRM/Crew Coordination	4+
6	NFO Responsibilities	4+
7	Mission Planning	4+
8	Brief/Debrief	4+
9	Ground Procedures	4+
10	Radio Procedures	4+
11	Departure	4+
12	In-Flight Checks	4+
13	Mission Ownership/Assertiveness	4+

MIF continued on next page.

CTS REF	MANEUVER	F4303
14	In-Flight Planning	4+
15	Use of ATIS/PMSV/FSS	4+
16	In-Flight Briefings	4+
17	Fuel Management/Analysis	4+
32	Taxi and Marshal	4+
33	Formation Takeoff	4+
34	Wingman Communication	4+
35	Section Management/Flight Leadership	4+
36	Wingman Responsibilities	4+
37	Rendezvous	4+
38	Underrun	4
39	Section Approach Procedures	4+
40	Section Break	4+
41	Landing Pattern	4+
42	SUA/MTR Entry/Exit Procedures	4+
43	NAV/Geographic Rendezvous	4
44	Visual Lookout	4+
46	G-warm	4+
47	Tactical Formation/Maneuvering	3+
49	VNAV Chart	4+
50	Turnpoint Identification	4+
51	VNAV Turnpoint Procedures	4+
52	Checkpoint Utilization/ Correlation	4+
53	Hazard Calls	4+
54	Course Analysis/Corrections	4+
55	Timing Analysis/Speed Corrections	4+
56	Altitude Selection/Compliance	4+
57	Wind Analysis/Compensation	4+
58	Target Acquisition	4+
59	Section Target Attack	3+

Blk #	Media	Title	Events	Hrs	H/X
F44	T-6A	Section Visual Navigation Check Ride	1	1.5	1.5

1. Prerequisite. F4303.

2. Syllabus Notes

a. Students will plan, brief, execute, and debrief a section visual navigation event.

b. Emphasis will be placed on crew coordination, NFO responsibilities, and the integration of visual navigation procedures.

c. This event shall be accomplished on a low-altitude MTR using visual navigation procedures at prescribed route altitudes, no lower than 500 feet AGL.

d. Timing will involve real-world times to the target.

e. The lead student will brief/debrief flight admin and conduct to include safety-of-flight, tactical admin, and the sequence of maneuvers. The lead student will utilize the wingman student appropriately in the brief/debrief and for flight planning and brief preparation. If conducting this event as the second flight of an out-and-in, during which one student will lead the first event and the other student will lead the second event, the lead student will brief/debrief flight admin and conduct for the respective event that he/she leads.

f. "Section Management/Flight Leadership" shall only be graded for the student performing from the lead aircraft during the flight event.

g. If performing an instrument approach from either the lead or wing aircraft, the student is to be graded on the maneuver item entitled "Section Approach Procedures."

h. A minimum of one instrument approach shall be accomplished on this event.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previous discuss item, any EP, and any limitation.

5. Block MIF

CTS REF	MANEUVER	F4490
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Composite Headwork/Situational Awareness	4+
4	BAR	4+
5	CRM/Crew Coordination	4+
6	NFO Responsibilities	4+
7	Mission Planning	4+
8	Brief/Debrief	4+
9	Ground Procedures	4+
10	Radio Procedures	4+
11	Departure	4+
12	In-Flight Checks	4+
13	Mission Ownership/Assertiveness	4+
14	In-Flight Planning	4+
15	Use of ATIS/PMSV/FSS	4+
16	In-Flight Briefings	4+
17	Fuel Management/Analysis	4+
32	Taxi and Marshal	4+
33	Formation Takeoff	4+
34	Wingman Communication	4+
35	Section Management/Flight Leadership	4
36	Wingman Responsibilities	4
37	Rendezvous	4+
38	Underrun	4
39	Section Approach Procedures	4
40	Section Break	4

MIF continued on next page.

CTS REF	MANEUVER	F4490
41	Landing Pattern	4
42	SUA/MTR Entry/Exit Procedures	4+
43	NAV/Geographic Rendezvous	4
44	Visual Lookout	4+
46	G-warm	4+
47	Tactical Formation/Maneuvering	3+
49	VNAV Chart	4+
50	Turnpoint Identification	4+
51	VNAV Turnpoint Procedures	4+
52	Checkpoint Utilization/ Correlation	4+
53	Hazard Calls	4+
54	Course Analysis/Corrections	4+
55	Timing Analysis/Speed Corrections	4+
56	Altitude Selection/Compliance	4+
57	Wind Analysis/Compensation	4+
58	Target Acquisition	4+
59	Section Target Attack	3+

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Chapter VIII

Tactical Training

This chapter does not apply to the UMFO Intermediate phase of training.

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Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of SNFOs during the Intermediate phase.

2. Student Duties and Responsibilities

a. Plan the mission.

b. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.

c. Operate the aircraft to accomplish the mission using sound judgment and airmanship.

3. General Standards

a. Achieve training standards for Visual Meteorological Condition (VMC) maneuvers in conjunction with visual clearing.

b. Unless otherwise specified, use Basic Airwork Recognition (BAR) standards for all items with altitude, airspeed or heading parameters.

c. "Standard" equates to ***good*** (G/4)**.**

d. Momentary deviations outside CTSs that do not compromise flight safety are acceptable if subsequent corrections are timely.

e. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from ***MISSION PLANNING*** apply.

4. Execution. The MIF regulates student progression to meet required standards prior to phase completion. Instructor pilots shall evaluate student performance against these standards.

5. Job Tasks. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
Graded Item	
• A brief description of the behavior, required action, and/or conditions.	• The specific standards for the action. May be read as "The SNFO…"

6. Graded Items. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these universally graded items are listed first. Beginning with Instruments, each stage's MIF table is listed followed by the course training standards which are introduced in that stage. Some of the standards are unique to that stage, while others may apply to later stages. Once the standard for a graded item has been established, it will not be repeated in the Course Training Standards list of later stages, but remains available to be graded.

7. Course Training Standards

UNIVERSALLY GRADED ITEMS

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
• Maintain working knowledge of all appropriate flight training instructions and directives.	• Recites, discusses, and/or performs all applicable items essential to the operation of the aircraft and completion of the mission with minimal deficiencies not pertaining to safety of flight.

BEHAVIOR STATEMENT	STANDARDS
2. Emergency Procedures	
• Perform critical action emergency procedures. • Maintain in-depth knowledge of all NATOPS emergency procedures. • Utilize the Pocket Checklist (PCL) IAW NATOPS and FTI guidelines.	• Correctly analyzes situation given real or hypothetical scenarios. • Recites critical action steps from memory without error (100 percent boldface accuracy). • Is proficient with all information contained in the PCL; is able to utilize the checklist in a correct and timely manner.
3. Headwork/Situational Awareness	
• Comply with the FTI, SOP, and NATOPS while maintaining Situational Awareness (SA) commensurate with safety-of-flight and mission objectives.	• Has knowledge of all rules and regulations and carries out all duties with minimum supervision. • Foresees and avoids possible difficulties by making recommendations that enhance the situation and/or overall mission effectiveness. • Remains alert and oriented during all phases of the event. • Maintains overall awareness with regard to fuel state, aircraft configuration, traffic in vicinity of own ship, and dynamic weather conditions.
4. Basic Airwork Recognition	
• Monitor/direct aircraft control and perform an instrument/composite scan as appropriate to maintain planned navigation parameters, ATC clearances and assigned altitude, airspeed, and heading during flight.	• Recognizes airwork deviations in a timely manner based on the phase of flight, not to exceed 30 seconds (enroute phase) and effectively directs corrections to: ▶ Maintain aircraft within 100 feet, 10 KIAS, $\pm$5° of assigned altitudes, speeds, and headings, respectively. ▶ Initiate/direct level off from all climbs/descents.

BEHAVIOR STATEMENT	STANDARDS
5. Crew Resource Management/Crew Coordination	
• Use available crew and cockpit resources to minimize workload and enhance SA. • Effectively communicate mission essential information between crewmembers. • Build crew awareness with timely and effective descriptive comm.	• Properly identifies crew roles, responsibilities, and expectations. • Improves mission effectiveness by minimizing crew preventable errors and optimizing crew coordination. • Demonstrates both leadership and team member skills. • Demonstrates proper level of assertiveness for the situation.
6. NFO Responsibilities	
• Accomplish required in-flight duties.	• Performs appropriate in-flight checklists, when required, per NATOPS and FTI • Gives proper takeoff calls, altitude warning calls and landing rollout calls per FTI to 90 percent accuracy.
7. Mission Planning	
• Perform mission planning to include takeoff, climb, enroute, descent, approach, and landing data. • Prepare chart and mission material. • Obtain applicable weather, bird activity, and NOTAMs. • Plan alternate execution. • Prepare flight log/ DD-175, as required. • Adjust mission's profile based on real-world/weather concerns.	• Correctly interprets a valid Wx briefing/information for all flights. • Completes DD-175 with 100 percent accuracy. • Completes Jet Log with 90 percent accuracy, as required. • Reviews FLIP documents, NOTAMs, and other applicable flight information. • Has all required materials (Wx brief, FLIPs, NOTAMs) prior to brief. • Adjusts tactical admin based on weather forecast and appropriate controlling documents. • Ensures SUA/MTR scheduled.

BEHAVIOR STATEMENT	STANDARDS
8. Brief/Debrief	
• Prepare for the brief, and as required, brief the flight in preparation for the mission. • During debrief, recall flight progression and play an active role in the mission/aircrew evaluation.	• Briefs the flight in accordance with the squadron briefing guide for the event. • Demonstrates proficient knowledge of discuss items with minimal deficiencies. • Demonstrates knowledge of all aspects related to conduct of flight event. • Recalls specifics of the mission and is able to accurately assess aircrew performance.
9. Ground Procedures	
• Provide astute backup for pilot during all taxi operations. • Begin when departing for the aircraft and end when cleared for takeoff. • Begin again when aircraft clears the runway and end when Before Leaving Aircraft Checklist is complete.	• Correctly performs aircraft inspections, and all ground checklists, procedures, and required briefs IAW NATOPS, FTI, and SOPs. • Monitors engine instruments for proper indications during start. • Safely directs/monitors the taxi of the aircraft via local procedures, using applicable airfield diagram as a reference.

BEHAVIOR STATEMENT	STANDARDS
10. Radio Procedures	
• Effectively communicate via the use of UHF/VHF radios and ICS as required. • Use standard terminology IAW AIM/FAR and FTIs.	• Understands and responds to 90 percent of incoming calls. • Communicates clearly and concisely with appropriate agencies using standard military and FAA terminology. • Makes timely transmissions without stepping on other radio calls. • Is able to discuss or perform NORDO procedures, as required. • If lead, executes proper formation lead communication procedures IAW the applicable FTI.
11. Departure	
• Begins when climb airspeed is established and ends when published departure is complete or established in assigned working area. • If no published departure, ends when initiating pitch change for level-off.	• Directs compliance with ATC/departure/flight plan clearances. • Performs an operations check after making radio contact with Departure Control, safety of flight permitting.
12. In-Flight Checks	
• Accomplish in-flight checks IAW NATOPS, FTI, and SOP.	• Identifies nearest divert field. • Performs operations check at least every 20 minutes.

BEHAVIOR STATEMENT	STANDARDS
13. Mission Ownership/Assertiveness	
• Exhibit aviation leadership. • Take charge of the mission in all aspects of planning and execution.	• Leads planning, briefing and execution of the mission. • Confidently influences aircrew to work in a coordinated effort toward successful task completion within the parameters of the mission objectives. • Determines actionable solutions to potential problems articulating proactive alternatives/courses of action. • Takes command of mission execution and provides reasoned alternatives to mission plan due to evolving and dynamic circumstances.
14. In-Flight Planning	
• Plan and execute required maneuvers and/or flight profile IAW all applicable instructions. • Understand current and required position. • Course and destination deviation as appropriate for weather, fuel, or emergencies.	• Adjusts mission profile for external factors (weather, traffic, diverts, etc.). • Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIPs. • Contacts appropriate controller and requests deviations in a timely manner IAW OPNAVINST 3710.7U.

BEHAVIOR STATEMENT	STANDARDS
15. Use of ATIS/PMSV/FSS	
● Use ATIS/PMSV to update destination conditions IAW the FTI. ● Use FSS as required to open, change, and close flight plans.	● Checks ATIS prior to contacting destination approach control. ● Updates destination and alternate weather with PMSV/AWOS/FSS enroute, when required. ● Contacts FSS to: ► Open flight plans after departure. ► Change flight plans enroute. ► Close flight plans after landing.
16. In-Flight Briefings	
● Accomplish in-flight briefings IAW the FTI.	● Provides takeoff brief, departure brief, holding brief, field brief, DRAFT report (as required), approach brief, and missed approach/climbout instructions when required using format delineated in the FTI with 90 percent accuracy.

BEHAVIOR STATEMENT	STANDARDS
17. Fuel Management/Analysis	
• Maintain fuel awareness throughout flight. • Determine fuel state and any fuel consumption trends. • Calculate Joker/Bingo/ MCF. • During the course of the event, analyze actual to preflight planned fuel at the IAF to assess mission feasibility. • Monitor fuel status for section and direct deviations, if needed, to accomplish mission goals and land with adequate fuel reserves IAW OPNAVINST 3710.7U and SOP.	• Checks fuel state at least every 20 minutes. • Calculates Joker/Bingo/MCF IAW FTI ±30 pounds. • Compares fuel state to MCF at each turnpoint and correctly states any trends in fuel consumption. • Makes recommendations to mission execution based on fuel state to ensure OPNAVINST 3710.7U/TW-6/ Squadron requirements for MCF. • Lead: ▶ Conducts fuel checks as required by FTI or every 20 minutes. ▶ Ensures that flight is conducted IAW SOP/NATOPS/FTI fuel requirements. • Lead/wing: ▶ Recognizes and calls JOKER/BINGO fuel as necessary with 100 percent accuracy. ▶ Makes recommendations to continue visual route if applicable or return early to destination without error.

INSTRUMENT NAVIGATION

BEHAVIOR STATEMENT	STANDARDS
18. In-Flight Computations	
• Compute IAW the FTI: ▶ Ground speed. ▶ ETE (to turnpoints). ▶ Fuel at destination IAF.	• Computes: ▶ Ground speed ±12 knots. ▶ ETA ±1 minute. ▶ Fuel at destination IAF within ±30 pounds of instructor calculations.

BEHAVIOR STATEMENT	STANDARDS
19. Enroute Procedures	
• Perform procedures while flying between departure transition point and destination. • Identify an intersection using appropriate NAVAID(s). • Identify station/ waypoint passage IAW FTI. • Intercept a radial and track inbound or outbound from a station. • Properly manipulate EFIS Control Panel.	• Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIPs. • Determines approximate wind direction ±30° and ±15 knots and maintains proper crab angle ±5°. • Gives position reports as required. • Leads turns when applicable IAW FTI. • Maintains within 2 NM of course centerline between all NAVAIDs and fixes. • Correctly identifies NAVAID station, GPS waypoint, or intersection passage.
20. Point-to-Point	
• Proceed direct to an assigned fix using PTP procedures.	• Expeditiously directs an initial heading ±30° to the fix. • Continuously updates heading to: ► Avoid large (>20°) heading changes within two minutes prior. ► Arrive within 2 miles of desired point.
21. Instrument Turnpoint Procedures	
• Perform instrument turnpoint calls.	• Makes appropriate two minutes prior, mark on top, and wings level calls using proper format and terminology IAW FTI with 90 percent accuracy. • Gives a wind-corrected outbound heading for a course, when able. • Updates navigation aids appropriately.

BEHAVIOR STATEMENT	STANDARDS
22. Arcing	
• Direct per FTI: ▶ VOR/DME arcing. ▶ Arc-to-radial intercepts. ▶ Radial-to-arc intercepts.	• Maintains the arc ±0.5 DME. • Calculates lead points IAW FTI to join: ▶ Arc ±0.5 DME. ▶ Radial ±3°.
23. Holding (VOR)	
• Direct VOR holding IAW the FTI.	• Computes proper entry turn. • Directs holding airspeed three minutes or less from the holding fix. • Establishes and maintains aircraft within holding airspace. • Properly calculates and applies drift corrections IAW the FTI. • Properly calculates and applies timing corrections IAW the FTI.
24. Holding (GPS)	
• Direct GPS holding IAW the FTI.	• Properly sets GPS for holding. • Computes proper entry turn. • Directs holding airspeed three minutes or less from the holding fix. • Establishes and maintains aircraft within holding airspace. • Properly calculates and applies drift corrections IAW the FTI.

BEHAVIOR STATEMENT	STANDARDS
25. VOR Approach	
• Direct a VOR approach IAW the FTI.	• IAF to FAF maintains course ±1 dot or valid intercept. • Properly directs the pilot to slow and take BAC IAW the FTI. • By the FAF (when depicted) or initiating descent to MDA, completes landing checklist. • Final: ▶ Maintains ±1 dot of desired course. ▶ Reaches and maintains MDA +100/-0 feet. ▶ Ensures missed approach/climbout instructions briefed prior to the MAP. • Properly calculates and applies backup timing at the FAF. • Properly identifies VDP when published. • Determines if the aircraft is in a position to execute a safe landing upon reaching the MDA/MAP. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.

BEHAVIOR STATEMENT	STANDARDS
26. GPS Approach	
• Direct a GPS approach IAW the FTI.	• Initial approach waypoint to FAWP: maintains course ±0.25 NM or valid intercept. • At 3 NM from FAWP, ensures FAWP is active waypoint. • At 2 NM from FAWP, ensures GPS is in active mode. • By the FAWP: ▶ Completes landing checklist. ▶ Ensures approach goes active prior to descent from FAWP. • Final: ▶ Maintains ±1 dot of desired course. ▶ Reaches and maintains MDA +100/-0 feet. ▶ Ensures missed approach/climbout instructions briefed prior to the MAP. • Determines if the aircraft is in a position to execute a safe landing upon reaching the MDA/MAP. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.

BEHAVIOR STATEMENT	STANDARDS
27. Localizer Approach	
• Direct a localizer approach IAW the FTI.	• By the FAF or initiating descent to MDA, completes landing checklist. • Final: ▶ Maintains ±1 dot of desired course localizer. ▶ Reaches and maintains MDA +100/-0 feet. ▶ Begins backup timing at the FAF when applicable. ▶ Ensures missed approach/climbout instructions briefed prior to the MAP. • Determines if the aircraft is in a position to execute a safe landing upon reaching the MDA/MAP. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.
28. ILS Approach	
• Direct an ILS approach IAW the FTI.	• Prior to initiating descent to DA, completes landing checklist. • Final: ▶ Maintains ±1 dot of localizer course. ▶ Maintains ±1 dot on glideslope. ▶ Begins backup timing for the localizer approach when applicable. ▶ Ensures missed approach/climbout instructions briefed prior to the DA. • Determines if the aircraft is in a position to execute a safe landing upon reaching the DA. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions.

BEHAVIOR STATEMENT	STANDARDS
29. Circling Approach	
• Direct a circling maneuver to the landing runway IAW the FTI.	• Provides the pilot proper instructions to establish the aircraft into the circling maneuver for the landing runway. • Selects appropriate MDA for aircraft category. • Ensures aircraft is within obstruction clearance radius for aircraft category before commencing circling maneuver. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions. • Maintains airspeed +10/-0 KIAS of circling airspeed. • Maintains altitude at circling minimums -0 feet.
30. Radar Approach/Ground-Controlled Approach	
• Direct the pilot, as needed, to properly comply with the FTI parameters of a PAR or ASR approach.	• Responds quickly and correctly to controller instructions. • Ensures lost communication and missed approach/climbout instructions are received prior to DA or MAP. • By glideslope intercept or descent to the MDA, completes landing checklist. • Determines if the aircraft is in a position to execute a safe landing on reaching the DA or MDA/MAP. • Directs the pilot as needed to execute the appropriate missed approach or climbout instructions. • Maintains airspeed +5/-0 KIAS on final. • Maintains heading ±3°.

BEHAVIOR STATEMENT	STANDARDS
31. Missed Approach	
• Direct a missed approach per the FTI.	• Directs appropriate missed approach procedure when field not in sight and, ► Nonprecision: ▪ Inside FAF and full scale CDI deflection. ▪ At specified MAP DME. ▪ At expiration of timing in the absence of DME. ► Precision, first of: ▪ DA. ▪ Controller-directed. ► Or, not in position for safe landing.

SECTION INSTRUMENT NAVIGATION

BEHAVIOR STATEMENT	STANDARDS
32. Taxi and Marshal	
• Perform taxi and marshal flight. • Perform formation ground procedures.	• Performs IAW FTI and local procedures. • Lead monitors wingman's position. • Performs appropriate section or division ground procedures as lead or wingman.
33. Formation Takeoff	
• Perform section or interval takeoff.	• Performs IAW FTI and SOP. • Lead: ► Monitors wingman. ► Directs appropriate type of takeoff for weather/runway conditions IAW FTI. • Wing: Advises IP of airspeeds, engine and gear status. • Performs responsibilities based on formation position IAW FTI and SOP.

BEHAVIOR STATEMENT	STANDARDS
34. Wingman Communication	
• Safely and effectively communicate with wingman using radio/visual/aircraft.	• Correctly uses and interprets hand signals. • Performs IAW FTI to 90 percent accuracy.
35. Section Management/Flight Leadership	
• Plan and execute an IFR flight plan (when applicable) as a section. • Plan and execute a parade/tactical formation sequence of maneuvers (when applicable). • Understand and direct required section positioning. • Accomplish/direct ADMIN/TAC ADMIN tasks in a timely manner.	• Lead ▶ Maintains section in compliance with IFR flight plan, ATC clearances, prebriefed approaches, etc. ▶ Maintains section inside the confines of assigned working area (when applicable). ▶ Efficiently sequences and directs maneuvers (when applicable). ▶ Adjusts mission profile for external factors considering wingman (weather, terrain, traffic, etc.).
36. Wingman Responsibilities	
• Monitor for own-ship proper section positioning. • Monitor for proper navigation and compliance with assigned clearance/ airspace restrictions and safety-of-flight.	• Wing ▶ Advises IP of deviations from lead-directed position and directs corrections over ICS prior to flight deviating from assigned clearance/airspace or safety-of-flight as required. ▶ Maintains positional and situational awareness so as to be able to assume the lead at any point during the mission.

BEHAVIOR STATEMENT	STANDARDS
37. Rendezvous	
• Reform to parade while lead is maintaining constant heading or in constant AOB turn.	• Recalls procedures with 100 percent accuracy IAW FTI. • Calls out airspeeds during rendezvous. • Continuously monitors join-up and advises IP of deviations. • Directs underrun procedures as necessary.
38. Underrun	
• Recognize/direct underrun as necessary for safety of flight or training.	• Recognizes the need to underrun. • Recalls/directs procedures IAW FTI with 100 percent accuracy.
39. Section Approach Procedures	
• Execute an instrument approach as lead or wingman.	• Lead: ▶ Maintains instrument parameters and procedures. ▶ Utilizes wingman consideration. ▶ Manages flight configuration, communication, navigation to effectively allow wingman to make a safe touch-and-go or full stop. • Wingman: ▶ Maintains position and configuration as directed by lead. ▶ Enhances pilot's situational awareness during execution of instrument approach procedures.
40. Section Break	
• Conduct VFR recovery and break (3-sec or fan break).	• Performs/directs recovery and break IAW FTI, Course Rules, FAR/AIM, NATOPS. • Ensures no rate of descent is generated. • As wingman, also monitors lead for level break.

BEHAVIOR STATEMENT	STANDARDS
41. Landing Pattern	
• Perform/direct landing pattern IAW the FTI. • If from initial, from rolling out on downwind to flare. • If from takeoff, touch-and-go, or waveoff, commencing the crosswind turn to flare.	• Ensures proper downwind configuration and spacing. • Performs/directs transition, trim, turn, and talk at the 180. • Makes appropriate BAR calls to keep aircraft: ► Maximum 45° AOB. ► TO Flap: ▪ 115 +10/-0 KIAS from 180 until final. ▪ 105 +10/-0 KIAS until beginning landing flare. ► LDG Flap: ▪ 110 +10/-0 KIAS from 180 until final. ▪ 100 +10/-0 KIAS until beginning landing flare. ► No-Flap: ▪ 120 +10/-0 KIAS from 180 until final. ▪ 110 +10/-0 KIAS until beginning landing flare. • Ensures Before Landing Checklist complete.

TACTICAL FORMATION

BEHAVIOR STATEMENT	STANDARDS
42. SUA/MTR Entry/Exit Procedures	
• Perform entry/exit procedures for SUA or MTR IAW FTI, briefing, and local standards. • Properly use visual cues and navigational aids to identify the route or SUA entry/exit point.	• Performs assigned duties during entry and exit from SUA or MTR. • Contacts airspace control authority and uses appropriate communications to gain clearance to enter/exit controlled airspace. • For MTR, contacts FSS IAW FTI to enter and exit the route. • Directs adherence to published or directed entry/exit restrictions with respect to altitude, heading, airspeed, position, squawk, etc. • Arrives at the entry point ±4 minutes of briefed time.
43. NAV/Geographic Rendezvous	
• Join up to parade position while lead is orbiting at a navigation fix or over a ground reference point.	• Recalls procedures with 100 percent accuracy IAW FTI. • Effectively navigates to the prebriefed rendezvous point. • Visually acquires the lead aircraft. • Continuously monitors joinup and advises IP of deviations. • Directs underrun procedures as necessary.
44. Visual Lookout	
• Keep visual on all formation members. • Keep visual scan for any traffic/obstacles that are potential conflicts.	• Maintains visual and/or SA on all members of the formation. • Understands and appropriately executes lost sight procedures. • Keeps an active visual scan for any traffic/obstacles that are potential conflicts. • Uses standard terminology and communication brevity.

BEHAVIOR STATEMENT	STANDARDS
45. Lost Sight Exercise	
● Execute simulated lost sight procedures.	● Clearly and effectively directs and communicates with IP and other aircraft in the formation, as prescribed in the FTI, in order to establish safe separation.
46. G-warm	
● Execute G-warm maneuver.	● Directs and/or executes G-warm when applicable and IAW the FTI.
47. Tactical Formation/Maneuvering	
● Discuss/direct proper Tactical Formation positions and maneuvering.	● Correctly states/directs tactical formation positioning and maneuvering IAW FTI. ● Lead: ▶ Maintains area/route orientation. ▶ Clears flight path. ▶ Checks six o'clock position. ● Wingman directs appropriate position/geometry (combat spread, in-place turns, cross turns, etc.) IAW FTI. ▶ Ensures deconfliction from Lead. ▶ Checks six o'clock position.

BEHAVIOR STATEMENT	STANDARDS
48. Tail-Chase/Pursuit Curves (pure, lead, lag)	
• Execute tail-chase/ pursuit curves profile. • Display knowledge and performance of pursuit curves.	• Performs IAW FTI. • Displays knowledge and effective use of lead, lag, and pure pursuit. • Lead: ▶ Advises IP of wingman's position and status. ▶ Advises IP of aircraft parameters including airspeed, altitude, Gs, and fuel. ▶ Directs flight to remain within assigned area. ▶ Clears for the section. ▶ Attempts to maintain sight of wingman throughout maneuvering. • Wingman: ▶ Maintains sight of Lead; advises IP when blind. ▶ Advises IP of applicable aircraft parameters including airspeed, altitude, Gs, and fuel. ▶ Makes recommendations to maintain constant relative position off Lead through use of pursuit curves.

SECTION VISUAL NAVIGATION

BEHAVIOR STATEMENT	STANDARDS
49. VNAV Chart	
• Prepare a visual navigation chart. • Demonstrate chart/route knowledge.	• Prepares a visual navigation chart via JMPS, IAW the FTI, to an accuracy of ±15 pounds (fuel), ±30 seconds overall and ±20 seconds at each turnpoint (time), and ±2° plotting turnpoint location without error. • Ensures all CHUM present and correct, chart signed, and all airspace, diverts/conflicting airfields and applicable hazards annotated on chart. • Briefs to IP: turnpoint description, features inside turnpoint circle, hazards on route, and all altitude changes.
50. Turnpoint Identification	
• Identify turnpoints on a visual route.	• Identifies visual turnpoints IAW FTI to an accuracy of 80 percent.
51. VNAV Turnpoint Procedures	
• Perform VNAV turnpoint calls.	Lead/Wing: • Makes 80 percent of VNAV two-minutes-prior, mark-on-top, and wings-level calls using proper format and terminology. • When wings level after passing each preplanned turnpoint, analyzes fuel and updates ETA to next preplanned turnpoint to an accuracy of 80 percent.

BEHAVIOR STATEMENT	STANDARDS
52. Checkpoint Utilization/Correlation	
• Identify/use visual checkpoints to determine aircraft position. • Use visually distinct terrain features as aids to navigation. • Maintain SA and position on flight planned route as required.	• Identifies intermediate checkpoints to an accuracy of 50 percent. • Determines geographic position from appropriate visual references to an accuracy of 1 NM. • Maintains positional awareness during route of flight using clock-chart-ground correlation.
53. Hazard Calls	
• Perform hazard calls IAW FTI. • Inputs and monitors traffic advisory frequency for hazard airfields.	• Calls 90 percent of known hazards using proper format and terminology. • Clears aircraft of weather, birds, obstacles, and other aircraft. • Inputs traffic advisory frequencies for all hazard airfields along VNAV route. • Provides timely descriptive or directive hazard calls as situation dictates.
54. Course Analysis/Corrections	
• Determine aircraft position in relation to intended course. • Perform standard course corrections IAW FTI to correct back to the specified course line. • Navigate on a specified visual route using dead reckoning/visual cues to correct back to planned course.	• Remains within 2 NM of route centerline, unless route restrictions dictate otherwise. • Lead: ▶ Timely and accurately applies 80 percent of course corrections IAW FTI. ▶ Directs appropriate heading change to return to course ±2° of IP calculations. • Wing: ▶ Maintains route situational awareness and makes appropriate course correction recommendations to Wing IP.

BEHAVIOR STATEMENT	STANDARDS
55. Timing Analysis/Speed Corrections	
• Plan and execute the mission to hit the route entry point at briefed real-world time. • Plan and execute to arrive at the target at preflight planned TOT. • Perform standard speed corrections to arrive at the target on time IAW FTI.	• Gives a time hack during brief. • Timely and accurately calculates and applies speed corrections IAW FTI. • Arrives at the target within ±1 minute from preflight real-world time on target. • Updates ETA to 100 percent accuracy. • Lead: ▶ Timely and accurately applies timing corrections IAW FTI. ▶ Calculates and initiates timing corrections to within ±5 knots and ±6 seconds of IP calculations. • Wing: Maintains timing awareness and makes appropriate correction recommendations to Wing IP.
56. Altitude Selection/Compliance	
• Select the proper altitude to and from visual route. • Maintain route altitude.	• Lead: ▶ Directs IP to climb/descend as required to maintain VFR hemispheric altitudes. ▶ Directs IP to maintain route altitude. • Wing: ▶ Monitors formation compliance with route altitudes. ▶ Maintains step-up on Lead in combat spread. ▶ Makes recommendations and/or directs lead aircraft when appropriate to correct relevant deviations.

BEHAVIOR STATEMENT	STANDARDS
57. Wind Analysis/Compensation	
• Determine wind direction and magnitude using course trend and time analysis. • Correctly compensate for current wind condition using course/timing trends and/or ground references/visual cues.	• Correctly calculates crab and airspeed compensations IAW FTI prior to brief. • Determines approximate wind direction ±30° and ±10 knots and maintains proper crab angle ±5°. • Correctly applies 50 percent of crab and airspeed compensations for headwinds and crosswinds. • Directs appropriate heading change to return to course ±2° of IP calculations.
58. Target Acquisition	
• Acquire and fly to the target.	• Uses target environment's visual cues to correctly correlate and identify the target. • Directs the pilot, IAW FTI, to mark on top to an accuracy of ±1/2 NM.
59. Section Target Attack	
• Perform section target attack IAW FTI, briefing, and local standards.	• Determines correct parameters for Z-diagram. • Selects proper action point. • Directs execution of section target attack procedures and communications IAW FTI.

Chapter X

Master Materials List

1. Individually Issued Materials

NOMENCLATURE	IDENTIFICATION	QTY PER STUDENT
a. Flight Training Instructions	CNATRA P-870	1
	CNATRA P-871	1
b. T-6A NATOPS Flight Manual	NAVAIR A1-T6A AAA-NFM-100	1
c. T-6A NATOPS Pocket Checklist	NAVAIR 01-T6A AAA-NPCL-100	1
d. NATOPS Instrument Flight Manual		1
e. Flight Crew Checklist		1

2. Aircraft and Major Training Devices

a. T-6A Aircraft

b. Cockpit Procedures Trainer quantity controlled by Naval Air Warfare Center Training Systems Division (NAVAIRWARCENTRASYSDIV), Training Material Management Division, Inventory Control Branch (Code 5204).

c. Operational Flight Trainer quantity controlled by NAVAIRWARCENTRASYSDIV, Training Material Management Division, Inventory Control Branch (Code 5204). Cost listed in NAVAIRWARCENTRASYSDIV Directory of Naval Training Devices Cognizance Symbol 2"0"

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